CLAIMS:

1. A method of printing a substrate having security features comprising the steps of:

importing a digitized design comprising a plurality of pixels;

assigning pixel illumination ranking values corresponding to the plurality of pixels to create a spot cell for a custom halftone dot; and

printing a substrate having at least one region comprising the custom halftone dot.

2. The method of claim 1 wherein the step of assigning pixel illumination ranking values comprises setting values corresponding to imported grey-scale pixel values of the digitized design.

3. The method of claim 2 wherein darker grey-scale pixel values are assigned higher pixel illumination ranking values.

4. The method of claim 1 wherein the step of assigning pixel illumination ranking values comprises converting imported color pixel values to grey-scale pixel values and setting values corresponding to grey-scale pixel values of the digitized design.

5. The method of claim 4 wherein darker grey-scale pixel values are assigned higher pixel illumination ranking values.

6. The method of claim 1 wherein the step of assigning pixel illumination ranking values comprises selecting at least one growth center of the digitized design and assigning illumination ranking to imported dark bi-level pixels based on the distance from the dark pixels to the at least one growth center.

7. The method of claim 1 wherein the step of assigning pixel illumination ranking values comprises selecting a growth center of the digitized design and assigning illumination ranking to imported dark bi-level pixels based on the distance along a single axis from the dark pixels to the growth center.

8. The method of claim 1 further comprising the step of scaling the pixel illumination ranking values for use in a printer language.

9. The method of claim 1 further comprising the step of saving the spot cell for later use.

10. The method of claim 7 further comprising the step of assigning the spot cell to a graphical element selected from the group comprising photographs, raster images, logos, symbols, text, type faces, rules, lines, circles, arcs, splines, colored areas, borders, pantographs, or patterns.

11. The method of claim 1 further comprising the steps of:

providing a second digitized design comprising a plurality of pixels;

assigning pixel illumination ranking values corresponding to the second plurality of pixels to create a second spot cell for a second custom halftone dot; and

assigning the first spot cell to be printed in a first printing density range, the first and second spot cells to be printed in a second printing density range, and the second spot cell to be printed in a third density range.

12. A physical media comprising:

a substrate;

a plurality of halftone dots printed on the substrate, at least one of the halftone dots comprising a microscopic image capable of human recognition when magnified.

13. A physical media comprising:

a substrate;

a first region comprising a plurality of halftone dots printed on the substrate;

a second region comprising a plurality of custom halftone dots printed on the substrate, the custom halftone dots each comprising a microscopic image capable of human recognition when magnified, and the custom halftone dots being perceptively different to the unaided human eye from the halftone dots when the substrate is optically reproduced.

14. The physical media of claim 13 wherein the halftone dots and the custom halftone dots are arranged in a pattern to display a self-cancelling image when the substrate is optically reproduced.

15. A computer programmed to create a substrate having security features comprising:

means for importing an image;

means for generating pixel ranking values to convert the image into a custom halftone dot; and

means for selecting a region on the substrate to comprise the halftone dot.

16. The programmed computer of claim 15 further comprising means for saving the custom halftone dot in a library for future use.

17. A substrate comprising:

a region comprising a plurality of custom halftone dots printed on the substrate, the custom halftone dots each comprised of a customized image.

18. A substrate comprising:

a region comprising a plurality of custom halftone dots printed on the substrate, the custom halftone dots each comprising a customized image.